

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 1-4, 6-13, and 21-28 are in this application. Claims 5 and 14-20 have been cancelled. Claims 1 and 8 have been amended. Claims 21-28 have been added to alternately and additionally claim the present invention.

Applicant requests the Examiner to indicate whether the substitute formal drawings filed on September 11, 2003 (and received by the PTO on September 15, 2003) have been entered into the application. Applicant notes that in the next communication following receipt of the drawings, applicant is to be notified by the Examiner if the drawings have been entered and, if not entered, applicant should receive an explanation as to why the drawings were not entered. (See MPEP §608.02(h).)

The Examiner rejected claims 1-2, 4-5, and 7 under 35 U.S.C. §102(b) as being anticipated by Sutton (U.S. Patent No. 4,937,647). For the reasons set forth below, applicant respectfully traverses this rejection.

Claim 1 recites:

"a second region of the first conductivity type that contacts the buried layer and the first region, the second region having a dopant concentration that is less than the dopant concentration of the buried layer;

"a third region of the second conductivity type that contacts the second region, the third region contacting the top surface of the second region, the first and the third regions being spaced apart; and

"a fourth region of the first conductivity type that contacts the second region, the fourth region contacting the top surface of the second region and being spaced apart from the third region."

In rejecting the claims, the Examiner pointed to n- epitaxial layer 90 shown in FIG. 3 of Sutton as constituting the second region of the claims, and p+ region 82

shown in FIG. 3 of Sutton as constituting the third region of the claims. In addition, the Examiner pointed to n+ region 62 shown in FIG. 3 of Sutton as constituting the fourth region of the claims.

Applicant notes that original claim 1 required the fourth region to be formed in the second region. N+ region 62, however, can not be read to be the fourth region required by the claims because n+ region 62 is not formed in second region 90, but instead is formed in p- well 100. To remove any question regarding the meaning of the phrase "formed in," claim 1 has been amended and recites that the fourth region contacts the second region. (Claim 1 was also amended to further define the present invention.)

Thus, since the Sutton reference fails to teach or suggest a fourth region that contacts the second region as required by the claims, claim 1 is not anticipated by Sutton. In addition, since claims 2, 4, 5, 7, and 21 depend either directly or indirectly from claim 1, claims 2, 4, 5, 7, and 21 are not anticipated by Sutton for the same reasons as claim 1.

With respect to new claim 22, this claim recites:

"a first semiconductor region of a first conductivity type, the first semiconductor region having a dopant concentration;

"a buried region of the first conductivity type, the buried region contacting the first semiconductor region and having a dopant concentration that is greater than the dopant concentration of the first semiconductor region;

"a second semiconductor region of a second conductivity type that contacts the first semiconductor region, the second semiconductor region being spaced apart from the buried region, the second semiconductor region including all contiguous regions of the second conductivity type; and

"a third semiconductor region of the first conductivity type that contacts the first semiconductor region, the third semiconductor region being spaced apart from the buried region and the second semiconductor region, and having a dopant concentration that is greater than the dopant concentration of the first semiconductor region."

If the first semiconductor region of claim 22 is read to be n- epitaxial layer 90 shown in FIG. 3 of Sutton, and the second semiconductor region of claim 22 is read to be p+ region 82, then the third semiconductor region of claim 22 can not be read to be n+ region 62 shown in FIG. 3 of Sutton because n+ region 62 does not contact n- epitaxial layer 90. As a result, claim 22 is not anticipated by Sutton. In addition, since claims 23-28 depend either directly or indirectly from claim 22, claims 23-28 are not anticipated by Sutton for the same reasons as claim 22.

The Examiner objected to claims 3, 6, and 8-13, but indicated that these claims would be allowable if rewritten to be in independent form to include all of the limitations of the base claim and any intervening claims. In view of the above amendments, claims 3 and 6 have not been amended to be in independent form at this time. Claim 8 has been amended to be in independent form, and is believed to include all of the limitations of the base claim and any intervening claims. (Claim 8 also includes the clarifying amendments that were made to claim 1.) Claims 9-13 have not been amended to be in independent form as these claims depend from claim 8.

Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are requested.

Respectfully submitted,

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